

## CLAIMS

I claim,

Claim 1. A weightlifting assembly comprising:

a. a weight bar,

b. one or more plungers that controllably rise and retract from one or more openings in the cylindrical surface of the bar end causing said plunger or plungers to contact with the wall of the central opening of weight plates and to rise above the portion of the cylindrical surface of the bar end that is not covered by the central opening of the weight plates.

c. a means for controllably raising and retracting said plunger or plungers, said means being actuatable in one direction to cause the plunger or plungers to rise and actuatable in the reverse fashion, thereby causing the plunger or plungers to retract to their original position.

Claim 2. The weightlifting assembly in claim 1, wherein the plunger or plungers are housed in a tubular sleeve that is attached to the weight bar.

Claim 3. The weightlifting assembly in claim 1, wherein the plunger or plungers are housed inside a space at the ends of the weight bar.

Claim 4. A weightlifting assembly comprising

a. a weight bar,

b. a plunger in the form of a helical member which is situated in a spiral guide slot in the bar end wherein the helical member can be controllably urged by an actuating means to radially expand outwardly from the guide slot causing said helical member to contact with the inner wall of the central opening of weight plates and to rise above the portion of the outer cylindrical surface of the bar end that is not covered by the central opening of the weight plates and which

helical member can thereafter be controllably retracted inwardly to its original position by said actuating means.

Claim 5. The weightlifting assembly in claim 4, wherein the helical member is stopped at one end of the spiral guide slot and in contact with an actuating means at the other end of the helical member wherein the helical member can rotatably compressed by the actuating means causing the helical member to expand outwardly from the spiral guide slot and thereafter the helical member can be rotatably decompressed by the actuating means causing the helical member to retract inwardly to its original position.

Claim 6. The weightlifting assembly in claim 4, wherein:

a. the helical member is stopped at one end of the spiral guide slot and in contact with an actuating means at the other end wherein the helical member can be rotatably compressed by the actuating means causing the helical member to expand outwardly from the spiral guide slot and thereafter the helical member can be rotatably decompressed by the actuating means causing the helical member to retract inwardly to its original position, and

b. the helical member is housed in a tubular sleeve that is attached to the weight bar.

Claim 7. The weightlifting assembly in claim 4, wherein:

a. the helical member is stopped at one end of the spiral guide slot and in contact with an actuating means at the other end wherein the helical member can rotatably compressed by the actuating means causing the helical member to expand outwardly from the spiral guide slot and thereafter the helical member can be rotatably decompressed by the actuating means causing the helical member to retract inwardly to its original position, and

b. the helical member and actuating mechanism are housed inside a space at the ends of the

weight bar.

Claim 8. The weightlifting assembly in claim 4, wherein the helical member is stopped at both ends of the spiral guide slot and in contact with an actuating means concentrically situated within the helical member wherein the helical member can be urged radially outwards by the actuating means applying force to the inside of the helical member causing it to expand radially outwards, and

Claim 9. The weightlifting assembly in claim 4, wherein

a. the helical member is stopped at both ends of the spiral guide slot and in contact with an actuating means concentrically situated within the helical member wherein the helical member can be urged radially outwards by the actuating means applying force to the inside of the helical member causing it to expand radially outwards, and

b. the helical member and actuating mechanism are housed in a tubular sleeve that is attached to the weight bar.

Claim 9. The weightlifting assembly in claim 4, wherein

a. the helical member is stopped at both ends of the spiral guide slot and in contact with an actuating means concentrically situated within the helical member wherein the helical member can be urged radially outwards by the actuating means applying force to the inside of the helical member causing it to expand radially outwards, and

b. the helical member and actuating mechanism are housed inside a space at the ends of the weight bar.

Claim 10. A weightlifting assembly comprising:

a. a weight bar, and

b. plungers extending through guide holes in the end of the weight bar, each of said plungers having guide means on the outer surface the end of the weight bar, the inner ends of each plunger being operatively connected to an actuating means wherein the plungers are forced outwardly when the actuating means moves in one direction and retract inwardly when the actuating means moves in the opposite direction.

Claim 11. The weightlifting assembly in claim 10 wherein the plungers and actuating mechanism are housed in a tubular sleeves that is attached to the end of the weight bar.

Claim 12. The weightlifting assembly in claim 10 wherein the plungers are housed inside a space at the ends of the weight bar.